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# The Effect of Alcohol on the Death Rate

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**A**BOUT seventy years ago a Quaker applied to an English life insurance company for life insurance and was asked ten per cent extra because he was a total abstainer, as it was then believed that a total abstainer could not live as long as one who used liquor. He refused to pay the increased rate and said he would prove the theory wrong and, if I am correctly informed, organized the United Kingdom Temperance and General Provident Institution of London in 1841.

The Company kept its total abstainers and non-abstainers in two separate classes. In 1903 the Company published the results of its experience. The moderate drinkers had died at the rate of 100.4 per cent of the death table; and the total abstainers at the rate of 74.3 per cent. Moderate drinkers as compared with total abstainers showed a death rate of thirty-five per cent higher. These figures are especially significant as they cover a very long period of time (over sixty years) and expected deaths of about fifteen thousand, thus giving sufficient numbers for the law of averages to obtain. This is more significant when it is known that life insurance companies frequently overlook some physical defect in a total abstainer that would not be overlooked if the man was a moderate drinker. For instance, a few weeks ago a man with a fine family history and a good health record applied for insurance. His weight, however, was beyond normal (about two hundred and ten pounds). His answer as to amount of liquor consumed showed that he took about four drinks of whiskey daily. Had he been a total abstainer his weight only would probably not have kept him from obtaining insur-

ance, but the two things combined caused his rejection.

A word in regard to the death losses among heavyweights. The average man five feet six inches weighs one hundred and forty-six pounds and the normal variations from this is about five pounds for every inch of height.

It is discovered that the death rate is less among men slightly lighter than the average and increases pretty steadily from five per cent above the average upward.

A large insurance company reporting on men thirty per cent or more above the average the death loss has been one hundred and fifty-two per cent of the expected. However, among heavy young men from about eighteen to twenty-five years of age the death rate is more favorable than the average. Thus it would seem that where men are naturally heavy they were desirable risks. Those who become corpulent through excessive drinking and excessive eating have quantities of dead matter in their system that nature has not been able to throw off and hence the risk of death becomes greatly augmented.

You will take notice in reading of death notices of those dying of sunstroke during the hot spells in the Eastern cities that more than three-fourths of them are men. One day when over forty patients had been carried into a hospital in Philadelphia, I visited that institution and inquiring of an old attendant there as to the condition of the patients when brought in he voluntarily furnished me the information that nine-tenths of them were "full" when brought in.

A Life Insurance Company has greater control over its death rate than over its interest rate. Large amounts of money must be invested ac-

according to the ruling rate of interest with only slight variations.

The death rate of a company depends in the first place upon the character of the agents. An agent who patronizes a saloon will make friends in that class, and if that class are insured a high death rate must result. An unprincipled agent might make corrupt arrangements with a complaisant physician who will pass bad risks for a consideration.

There are certain races of people shorter lived than others. The average length of life seems to depend largely upon the morals. The death rate of tropical climates is much higher than that of the temperate climates, and the death rate of cities higher than that of the countries. The death rate of fat men or very lean men is higher than those of normal weight. The average life of the ancestry and the diseases of which they died largely control the length of life of their descendants.

A great deal of attention is lately being paid to what is called "moral hazard." A man known to be gambling, whether it is speculation or plain betting, has his moral hazard risk increased. There is a high death rate among such politicians who are known as "Grafters," such as bribe or accept bribes.

In the great Insurance investigation an appalling percentage of those involved died about eighteen months after exposure. Of four men indicted for the graft of \$9,000,000 for the furniture of the state capital of Pennsylvania, I think I am correct in saying that three deceased within a few months after they were found out. The death rate is also very high among those men who betray financial trusts, such as defaulting



bankers and those who spend estates entrusted to their care.

By carefully watching all risks—moral, physical, family history, occupation, climatic conditions, habits, etc., one company has been able to reduce its death rate over a period of forty-five years to less than sixty-one per cent of the expected, according to the American Death Table.

A man who goes on a roaring drunk occasionally and then for weeks drinks nothing at all is a better risk than a man who never gets drunk but is always drinking.

From a paper read by Roderick McKenzie before the British Institute of Actuaries it appears that between the ages of thirty and forty years there were abstainers' deaths of 42,001 among a certain number, and drinkers, 70,041. At ages from forty to fifty, abstainers, 6,246, and drinkers, 10,861. It is a popular idea that in old age drink is good for the length of life. I believe there are no statistics to prove this contention, although the figures do show that there is less difference between drinkers and abstainers in old age than in earlier years. But I believe the time never comes when the death rate is not higher for the moderate drinkers.

The death rate for Canada is lower than that of United States. They consume less liquor per head. The death rate of United States is less than Great Britain. Great Britain less than France and Germany. The death rate of Scandinavia is less than any other European nation having a large portion of territory that is under the prohibitory law. The death rate of all these nations is almost in proportion to the number of gallons consumed yearly.

The Sceptre Life Insurance Society, Limited, of England, for the years from 1884 to 1903, in-

clusive, gives the following figures: For abstainers, 1,440 expected deaths, actual deaths 792; non-abstainers, 2,730 expected deaths, actual deaths 1880. The ratio being fifty-five per cent for the total abstainers and seventy-nine per cent for the non-abstainers.

Scottish Temperance Life Assurance Company, Limited, for twenty years, from 1883 to 1902, inclusive, shows abstainers die at the rate of only forty-five per cent of the expected and non-abstainers at the rate of seventy-one per cent of the expected.

The Actuary of the Mutual Life Insurance Company of New York undertook a study of the effect of drink on the death rate of his company, taking the American Death Table as a guide and shaving this about twenty-five per cent for the first five years to cover the effect of selection, and then comparing actual losses with this amended table among abstainers he found the expected loss of 5,455,669 and an actual loss of 4,251,050. This was a rate of seventy-eight per cent of the expected. Of the drinkers the expected loss was 9,829,462 and the actual loss was 9,469,407. The drinkers showing ninety-six per cent loss as compared with the other section of seventy-eight per cent.

It should be remembered at the same time that Life Insurance companies are supposed not to insure anyone who is an immoderate drinker. Every company that I am acquainted with asks in the application particularly as to these habits—drink, opium, smoking and other drugs, the same as they inquire into the diseases and defects of family record. If the death rate of the selected drinkers is one-third greater than abstainers what will be the still higher death rate among those whose habits preclude their being insured at all?

Comparatively few Life Insurance companies insure liquor dealers, and the latest custom when companies accept them is to add twelve years to the actual age of the applicant. What place ought civilization grant to any business that will subtract twelve years from the life of the man who runs it?

In 1903 a committee of the Acturial Society published a book giving the results of mortality experience of the leading Life Insurance companies of this country on ninety-eight different classes of lives, and among those classes are five which may have some bearing on the point at issue. The experience covered was for thirty years from 1870 to 1899, inclusive, i. e., all policies issued during those years showing their experience for the time they were in force.

Under the head "Hotel Keepers Not Tending Bar" there were 1,188 deaths, when only 971.9 were expected, i. e., 122 per cent of the expectation by the Modified Healthy English Mortality Table (being the same Table applied to all classes). Under the head "Wine or Liquor Seller Abstainer," there were 411 deaths for an expectation of 343.7, i. e., an actual mortality of 119 per cent of the expected. Under the head of "Wine and Liquor Seller, Non-Abstainer," there were 1,704 deaths, against an expectation of 1,303, i. e., 131 per cent actual deaths, as compared with the expected. Under the head of "Brewer or Employee," 796 deaths against an expectation of 588.2, or 136 per cent of the expected. Under the head of "Distiller or Employee" 205 actual deaths, against 192.4 expected, or 106 per cent of the expected.

From this it would appear than even the total abstainers who handle liquor are not exempt from the wages of sin as they die at the rate of 119



per cent of the expected. Either the business itself is a life depressant or the mentally, or morally, or physically deficient enter the business. Whatever the cause, or they fail to tell the truth when applying for Life Insurance, the death rate even among the total abstaining liquor dealers is 19 per cent greater than the expected. It also appears that the Brewery Employee and Brewer have a greater death rate as a class than any other class connected with the business except the bartender. This would indicate that beer instead of being a safe drink is on the whole a most injurious one.

The death rate of the average man engaged in the liquor business is greater than the following dangerous occupations and of those who have suffered the following diseases as below quoted:

Railroad locomotive engineer. . . . .	127
Seaman or fisherman. . . . .	108
Steel grinder. . . . .	120
City fire department. . . . .	113
Officer in the Army. . . . .	116

Persons having had—

Renal colic, calculus or gravel. . . . .	107
Blood-spitting. . . . .	108
Inflammatory rheumatism more than once. . . . .	107
Hip-joint disease. . . . .	128
Syphillis. . . . .	133

The power of evil seems to be commensurate with the power to deceive and it is only as it was written that the devil was a liar from the beginning, so his chief vicegerent, the liquor traffic, has been the greatest deceiver of mankind. Men have thought to obtain lengthened life by it and have invited death instead; they have sought health by it and thereby multiplied their diseases; they have obtained the devil's joy, which is nine-tenths pain; they have sought to obtain intellect-

ual acuteness and have ended with cooked brains; it has promised riches to the State and costs \$9 of taxes to \$1 of revenue to the State; it promises yet an easy way of living for the saloon-keeper and gives instead a kind of life that is not worth the living, as the suicide statistics of saloonkeepers indicate.

The wisest man of the ages more than three thousand years ago said: "Wine is a deceiver and strong drink is raging, and whosoever is deceived thereby is not wise."

Even the medical fraternity have been deceived and their deception has added to the death toll of each succeeding generation, from poisoned infants to the drugging of men already poisoned with disease up till old age, where they add artificial palsy to the decrepitude of the already infirmed. Proofs are coming in constantly now that millions of men have been slain by the doctors administering the poison of alcohol.

The London Temperance Hospital which for over twenty-five years has not used a drop of liquor has lately published their experience, and in Typhoid Fever especially that Hospital has had a death rate of thirty per cent less than the other London hospitals.

The ordinary doctor taking a Typhoid Fever patient after the body has created antitoxines and destroyed the disease germs, and the fever has ceased and nature takes a breathing spell before starting on the upward grade, and nature seems inert, the fool doctor as a rule still pours the poison into the system. Nature recognizes the toxic and in alarm starts all the organs of the body to work to rid itself of the new poison—liver, kidneys, lungs, heart, perspiration, and if a nursing mother, her milk will cary off the alcohol. Every organ of the body that can do any work

sets itself to rid the system of the poison, and at this point the doctor, recognizing the activity, says the patient is better. The fact is that the little strength the patient has left is being drained to rid itself of the extra burden and shortly after, unless the patient is strong, he collapses and dies. It has taken the medical profession thousands of years to begin to discern the difference between the final effects and the immediate symptoms.

Dr. Spratling reports a history of alcoholism in the parents of three hundred and thirteen out of nine hundred and fifty cases. More than twenty-two per cent of these unfortunates are thus suffering from the mistakes of their parents. Nor does this by any means tell the whole story, for the report shows that five hundred and seventy-seven additional cases (more than sixty per cent of the whole) suffer from "neuropathic heredity," which means that their parents were themselves the victims of one or another of the neuroses that are peculiarly heritable, and that unquestionably tell in a large number of cases of alcoholic indulgence on the part of their progenitors. "Given to the third and fourth generation," said the wise Hebrew of old. And the laws of heredity have not changed since then.

The world is just beginning to waken up to the necessity of sanitation in reference to tuberculosis. This has been found to be a germ disease and preventable, but probably the greatest ally to the disease has been liquor.

Somewhat startling statistics from the Provinces of France show that those Provinces drinking the least wine have the fewest deaths from tuberculosis; and those Provinces having the greatest number of gallons of wine per head consumed have the most deaths from tuberculosis.

Of the saloonkeepers of France, out of every

thousand that die more than five hundred of them die of consumption. Thus the saloon is not only a moral plague spot, but a physical one as well.

We will now consider for a moment the death rate of those actually engaged in the liquor business. First, we will take Germany, where it is said they can always drink and never be drunk. In Prussia in 1901 out of 159,000 deaths occurring after twenty-five years of age, fifty-two per cent of the whole lived to over sixty. Of persons insured in the Gotha Life Insurance Company, of physicians forty-nine per cent live to over sixty; of teachers, fifty-one per cent; of clergy, sixty-five per cent; of men engaged in the liquor trades, average thirty-one per cent; brewery employees, eighteen per cent; bartenders, seven per cent. According to these figures the bartender has only one chance in nine as to the preacher in living to over sixty years of age.

In Prussia of every one thousand deaths occurring over twenty-five years of age, one hundred and sixty-one are from tuberculosis. But every one thousand deaths among bartenders, five hundred and fifty-six are from tuberculosis. Among Brewery employees three hundred and forty-five. School teachers, one hundred and forty-three. Physicians, one hundred and thirteen. Clergy, seventy-six. The average covering all callings would be much less if the death rate in liquor trades was eliminated.

In the statistics of accidents, the miners show ninety accidents to the thousand, the breweries one hundred and eighteen per thousand. This is a higher average than any other trade, even the most perilous, and Professor Guttstadt gives to these the name of "bier-leiche" (beer corpses).

Before Theodore Roosevelt became President he was appointed Police Commissioner of New York. He found an ordinance closing saloons on Sunday, and contrary to the opinions of almost



the whole press of the city and without much aid from the three other police commissioners, proceeded to enforce the law. The death rate of the city immediately dropped nearly five per cent, and if my recollection serves me, the deposits in the savings banks increased over \$1,000,000 per week during this enforcement.

The tendencies of liquor drinking toward causing suicide has received ample verification before and after the earthquake of San Francisco in 1906. During the Ruef and Schmitz administration the suicide rate of the city reached an enormous proportion, being sixty-one per one hundred thousand in 1905. The next highest in America being Hoboken, N. J., at 29; Oakland, Calif., was 26.7; Chicago, 20.4; New York City, 17.7; and Philadelphia 14. i. e., the suicide rate of San Francisco was nearly three times the larger of any of the other large cities. There they were killing themselves at the rate of two every three days. In May and June, 1905, there were forty-eight suicides in the city. Then came the earthquake and fire and two months of prohibition. San Francisco went home for the first time in its life sober. Tens of thousands of women who had dreaded to see their husbands return home had a few weeks of happiness.

I am fully satisfied that the average man and woman in San Francisco was happier two weeks after the great earthquake and the fire than two weeks before. It is a very forcible reminder of the Scripture, "A man's life consisteth not in the abundance of the things that he possesseth." There was more brotherly kindness and of general good cheer, less selfishness, and very many less heartaches, all of which was reflected plainly in the faces of the average men of the city. I studied phenomenon as keenly as I ever studied



any sociological question. There are probably more men alive today, notwithstanding the several hundreds of deaths of the earthquake, than there would have been if the so-called disaster had not occurred. In suicides alone there are several hundred more men alive than there would have been at the old rate.

The saddest sight I saw in the whole time of the disaster was that of a drunk crazed woman with a big bottle of liquor, and a young daughter about thirteen years of age trying to take the bottle from her, and a man apparently the husband of the woman, aiding the daughter to get possession of the liquor. The frantic cries of the daughter and the demonial determination of the drunken woman to continue her debauch among the smoking ruins were more pitiful and frightful than the view of the ruined city.

During the two months of prohibition the suicide rate of San Francisco dropped from 48. to 8. just at the time when we had experienced the appallingly disastrous loss of property and friends, and when it would be imagined that self-destruction would be more frequent. To make the matter a little more emphatic, one must consider Oakland (which is just across the Bay) with San Francisco at this time. Oakland thought she needed the revenue from liquor and saloons and kept the saloons open constantly, attracting all the bums of the city, and they are still there killing themselves, although San Francisco bids fair to get them all back shortly under the new political conditions. Oakland suicide rate jumped from 26.7 in 1905 to 66.2 in 1908, and then stood as the highest suicide city of any one in America.

The suicide rate for 1909 which has just come into my hands, shows San Francisco 59.9; Oakland, 55.1; Hoboken, 52.6; Chicago, 19.6; New

York, 20.5; Philadelphia, 16.2. The suicide rate seems to be increasing in almost all the American cities.

I believe it is now conceded that the German race, the great beer drinkers, have more suicides than any other people. In the German Army the rate is very high. Beer and idleness will make most any man feel that life is not worth living, especially when it is connected with other vices that go along not only with the saloon, but with army life.

It is a strange thing that with the evils and disgusting conditions surrounding the saloon business anyone should stay in it. But I am reminded of Milton's "Masque of Comus" in which he says they who partook of the cup of Circe had their images transformed to that of ounce, tiger, hog or bearded goat, and they so perfect in their misery that they not once perceive their foul disfigurement, but boast themselves more comely than before.

And again it is an illustration of the great truth in the Messiah's declaration as to the deceitfulness of riches. If it were not for the money in the business it would sink of its own weight, but many men are willing to run the risks of death bodily and spiritually to obtain money without giving labor or other value received, and are certainly deceived in their expectation of obtaining happiness in this manner.

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